

ROPE & GRAY
ONE INTERNATIONAL PLACE
BOSTON, MA 02110-2624
PHONE: (617) 951-7000
FAX: (617) 951-7050

FAX RECEIVED

DEC 17 2001

GROUP 1600

FAX TRANSMITTAL LETTERTotal Number of pages including this transmittal letter: 36

OFFICIAL

Name	Firm/Company	Fax Number	Phone Number
Examiner Brannock	U.S. Patent & Trademark Office	(703) 308-4242	(703) 306-5876

From: David P. Halstead

IF YOU DO NOT RECEIVE ALL PAGES, PLEASE CALL IMMEDIATELY AT:(617) 951-7000**IMPORTANT: PLEASE DELIVER THIS DOCUMENT IMMEDIATELY!**

COMPLETE WHEN SUBMITTING TO FAX DEPARTMENT

Date: December 14, 2001

Time: 3:48 PM

File Symbol: HMSU-P04-006

Personal ID Number:

Submitted By:

Phone:

Comments: U.S. Application No.: 08/954,771

Filing Date: June 5, 1995

Group Art Unit: 1646

Examiner: M. Brannock

Title: Vertebrate Tissue Pattern Inducing Proteins and Uses Related Thereto

THIS DOCUMENT IS INTENDED ONLY FOR THE USE OF THE PERSON TO WHOM IT IS ADDRESSED. IT MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL AND EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW. If you are not the intended recipient, any dissemination, distribution, copying or use of this document is strictly prohibited. If you have received this communication in error, please notify us by telephone (Collect:) to arrange for the destruction or return of the original document to us.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Ingham et al.

Serial No: 08/954,771

Filed: June 5, 1995

For: Vertebrate Tissue Pattern Inducing
Proteins and Uses Related Thereto

Attorney Docket No. HMSU-P04-006

Art Unit: 1646

Examiner: M. Brannock

3246
M.J.J
12/17/01**CERTIFICATE OF FACSIMILE**

I hereby certify that this correspondence is being transmitted by facsimile in the United States Patent and Trademark Office on the date indicated below:

December 14, 2001

Date of Signature
and of Mail Deposit

Karen DiRocco

Assistant Commissioner of Patents
Washington, D.C. 20231

REPLY UNDER 37 CFR 1.111

Sir:

This amendment is being filed in reply to the outstanding Office Action, mailed September 24, 2001, in connection with the above application. Please enter the following amendments:

In the specification:

On page 142, please replace the last paragraph with:

Various fragments of the mouse *Shh* gene were cloned into the pET11D vector as fusion proteins with a poly(His) leader sequence to facilitate purification. Briefly, fusion genes encoding the mature M-*Shh* protein (corresponding to Cys-25 through Ser-437 of SEQ ID No. 11) or N-terminal containing fragments, and an N-terminal exogenous leader having the sequence M-G-S-S-H-H-H-H-H-L-V-P-R-G-S-H-M (SEQ ID No. 47) were cloned in pET11D and introduced into *E. coli*. The poly(His)-*Shh* fusion proteins were purified using nickel chelate chromatography according to the vendor's instructions (Qiagen catalog 30210), and the poly(His) leader cleaved from the purified proteins by treatment with thrombin.

12/18/2001 GTRH:ML 00000003 181945 08954771
01 FC:116